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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary

Application No.

10/586,738

Applicant(s)

ATHERTON, PETER SAMUEL

Examiner

QUANG D. PHAM

Art Unit

2612

Period for Reply -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 June 2011.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2,4-9 and 12-17 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,4-9 and 12-17 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-942)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 06/03/2011
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 06/03/2011 has been entered.

Respond to Applicant's Arguments/Remarks

2. Applicant's arguments, see Remarks, filed 06/03/2011, with respect to the rejection(s) of **claims 1-2, 4-5, 7-9, and 12-15** under 35 USC 103(a) (over **Eberthard** in view of **Beigel**), **claims 6 and 16** under 35 USC 103(a) (over **Eberthard** in view of **Beigel** and further in view of **Halope**), and **claim 17** under 35 USC 103(a) (over **Eberthard** in view of **Beigel** and further in view of **Gustafson**), based solely on the claimed limitations as amended, has been fully considered and are not deemed persuasive. Therefore, due to the claimed amendments, upon further consideration, a new ground of rejections necessity by amendments is made in view of following reference/combinations.

Examiner Notes

3. Examiner cites particular columns and line numbers in the references as applied to the claims below for the convenience of the applicant. Although the specified citations are representative of the teachings in the art and are applied to the specific limitations within the individual claim, other passages and figures may apply as well. It is respectfully requested that, in preparing responses, the applicant fully consider the references in their entirety as potentially

teaching all or part of the claimed invention, as well as the context of the passage as taught by the prior art or disclosed by the examiner.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. **Claims 1-2, 4-5, 7-9, and 12-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Eberthard et al. (Eberthard – US 6,107,920) in view of Diprizio et al. (Diprizio – US 6,384,727 B1) and further in view of Beigel (Beigel – US 6,181,287 B1).**

(1). As to **claim 1**, **Eberthard** discloses radio frequency identification tag having an article integrated antenna. Further, **Eberthard** discloses *a method, comprising:*

providing an RF antenna (FIG. 1 the antenna 22) on an item (abstract, column 3 lines 47 – column 4 lines 2, column 4 lines 17-23, FIG. 1 the article 10); and

providing a RFID electronics module (FIG. 1 the RFID tag circuit chip 12), the module electrically coupling the RFID electronics module to the RF antenna (FIG. 1 the antenna 22) on the item after the RF antenna is provided on the item (abstract, column 4 lines 17-23, column 4 lines 34-44, FIG. 1, and FIG. 2),

thereby providing an RFID capability for the item (column 4 lines 10-15, column 5 lines 33-40, and FIG. 1).

Except for the claimed limitations of *the module being a chip mounted on a substrate and the coupling being a non-contact electrical coupling*.

In the same art of RFID design, **Diprizio** discloses the radio frequency identification device (FIG. 1 RFID device 10) for use in application of identifying persons, places, or things (column 3 lines 1-4) comprising the first substrate (column 3 lines 7-16 and FIG. 1 the substrate 12), the conductive pattern having the first electrode and the second electrode (column 3 lines 39-67 and FIG. 1 the first electrode 14 and the second electrode 16), and the circuit (column 4 lines 1-14, FIG. 1 the circuit 18, and FIG. 2 the memory 22). Further, **Diprizio** discloses the circuit of the radio frequency identification device comprising the second substrate (FIG. 2 the second substrate 20) wherein the circuit is electrically coupled to the first electrode and the second electrode by use of adhesive, conductive vias, capacitive coupling, or other suitable means of providing electrical connections between the circuit and the first and second electrode (column 4 lines 44-51 and FIG. 2).

In the same art of RFID design, **Beigel** discloses a method wherein the RFID antenna coupled to the RFID chip in a non contact coupling, e.g. appropriate frequencies, capacitive, inductive, or lumped reactive, etc. to reduce the need for the electrical connection between the RFID chip and the RFID antenna through the substrate (abstract, column 2 lines 29 – column 3 lines 2, and FIG. 1).

Therefore, in view of **Eberthard**, **Diprizio** and **Beigel**'s teachings, it would have been obvious to one of the ordinary skill in the art at the time of the claimed invention to include in the method of attaching RFID module to an item of **Eberthard**, the RFID tag circuit chip mounted on the substrate, as taught by **Diprizio**, for the purpose of conveniently apply the RFID

circuit chip to the RFID antenna, further to include in the method of attaching RFID module to an item of **Eberthard** and **Diprizio**, wherein the coupling between the RFID circuit chip and the RFID antenna being a non-contact electrical coupling, as taught by **Diprizio** and **Beigel**, for the purpose of reducing the need for the electrical connection between the RFID chip and the RFID antenna through the substrate (**Beigel**: column 2 lines 63 – column 3 lines 2) and the result would have been predictable in the combination of **Eberthard**, **Diprizio**, and **Beigel**.

(2). As to **claim 2**, **Eberthard**, **Diprizio**, and **Beigel** disclose the limitations of **claim 1**. Further, **Eberthard** discloses *the method wherein electrically coupling comprises attaching the RFID module to the item to provide an RFID function for the item* (abstract, column 4 lines 10-15, column 4 lines 17-23, column 4 lines 34-44, column 5 lines 33-40, FIG. 1, and FIG. 2).

(3). As to **claim 4**, **Eberthard**, **Diprizio**, and **Beigel** disclose the limitations of **claim 1** except for the claimed limitations of *the method wherein the item includes an inside surface and an outside surface and further comprising providing the RF antenna on the inside surface of the item and attaching the RFID electronics module in an adjacent position to the outside surface of the item*.

Eberthard discloses the a method printing antenna inside the surface of the item in order to reduce the orientation sensitivity of the RFID tag, for instance (column 10 lines 3-42 and FIG. 15 the antenna element 424 and 426). **Eberthard** discloses different method of attaching the RFID chip to the RFID antenna (FIG. 1-14). In addition, **Eberthard** discloses RFID chip is in an adjacent position to the outside surface of the item when the antenna is printed on the inside surface of the item (column 8 lines 10-33 and FIG. 11). Therefore, in **Eberthard**, **Diprizio**, and **Beigel**'s teaching, it would have been obvious to one of the ordinary skill in the art at the time of

the claimed invention to include the method wherein the item includes an inside surface and an outside surface and further comprising providing the RF antenna on the inside surface of the item and attaching the RFID electronics module in an adjacent position to the outside surface of the item, as taught by **Eberthard**, in the method of attaching the RFID module to an item of **Eberthard, Diprizio, and Beigel**, for the purpose of reducing the orientation sensitivity of the RFID tag and protecting the RFID tag from damage by placing the RFID chip below the surface of the item and the result would have been predictable in the combination of **Eberthard, Diprizio, and Beigel**.

(4). As to **claim 5, Eberthard, Diprizio, and Beigel** disclose the limitations of **claim 1**. Further, **Eberthard** discloses *the method further comprising: providing the RF antenna* (FIG. 1 the antenna 22) *with a first set of contact pads* (column 4 lines 34-37 and FIG. 1 the first coupling region 28 and FIG. 1 the second coupling region 30);

providing the RFID module (FIG. 1 the chip assembly 12) *with a second set of contact pads* (column 4 lines 55-67 and FIG. 2 the first conductive member 38 and the second conductive member 40).

Except for the claimed limitations of *aligning the first and second set of contact pads in a predetermined manner relative to each other when attaching the RFID module to the item whereby the RFID module is non-contact electrically coupled to the RF antenna*.

In the same art of RFID design, **Beigel** discloses a method wherein the RFID antenna coupled to the RFID chip in a non contact coupling, e.g. appropriate frequencies, capacitive, inductive, or lumped reactive, etc. to reduce the need for the electrical connection between the

RFID chip and the RFID antenna through the substrate (abstract, column 2 lines 29 – column 3 lines 2, and FIG. 1).

Therefore, in view of **Eberthard, Diprizio and Beigel's** teachings, it would have been obvious to one of the ordinary skill in the art at the time of the claimed invention to include aligning the first and second set of contact pads in a predetermined manner relative to each other when attaching the RFID module to the item whereby the RFID module is non-contact electrically coupled to the RF antenna, as taught by **Beigel**, in the method of attaching RFID module to an item of **Eberthard and Diprizio**, for the purpose of reducing the need for the electrical connection between the RFID chip and the RFID antenna through the substrate (**Beigel**: column 2 lines 63 – column 3 lines 2) and the result would have been predictable in the combination of **Eberthard, Diprizio, and Beigel**.

(5). As to **claim 7**, **Eberthard** discloses radio frequency identification tag having an article integrated antenna. Further, **Eberthard** *a method comprising, applying an RF antenna (FIG. 1 the antenna 22) directly to an item (column 4 lines 16-23); providing an RFID electronics module (FIG. 1 the RFID tag circuit chip 12) separate from the item (FIG. 1) and the RF antenna on the item (FIG. 1 the first surface 18), the RFID electronics module including electronics that provide an RFID capability when coupled to the RF antenna (column 4 lines 10-15, column 5 lines 33-40, and FIG. 1);*

applying the RFID electronics module to the item after applying the RF antenna to the item (abstract, column 4 lines 17-23, column 4 lines 34-44, FIG. 1, and FIG. 2).

Except for the claimed limitations of *the RFID electronics module is a chip mounted on a substrate that is electrically coupled to the RF antenna by a non-contact coupling.*

In the same art of RFID design, **Diprizio** discloses the radio frequency identification device (FIG. 1 RFID device 10) for use in application of identifying persons, places, or things (column 3 lines 1-4) comprising the first substrate (column 3 lines 7-16 and FIG. 1 the substrate 12), the conductive pattern having the first electrode and the second electrode (column 3 lines 39-67 and FIG. 1 the first electrode 14 and the second electrode 16), and the circuit (column 4 lines 1-14, FIG. 1 the circuit 18, and FIG. 2 the memory 22). Further, **Diprizio** discloses the circuit of the radio frequency identification device comprising the second substrate (FIG. 2 the second substrate 20) wherein the circuit is electrically coupled to the first electrode and the second electrode by use of adhesive, conductive vias, capacitive coupling, or other suitable means of providing electrical connections between the circuit and the first and second electrode (column 4 lines 44-51 and FIG. 2).

In the same art of RFID design, **Beigel** discloses a method wherein the RFID antenna coupled to the RFID chip in a non contact coupling, e.g. appropriate frequencies, capacitive, inductive, or lumped reactive, etc. to reduce the need for the electrical connection between the RFID chip and the RFID antenna through the substrate (abstract, column 2 lines 29 – column 3 lines 2, and FIG. 1).

Therefore, in view of **Eberthard**, **Diprizio** and **Beigel**'s teachings, it would have been obvious to one of the ordinary skill in the art at the time of the claimed invention to include in the method of attaching RFID module to an item of **Eberthard**, the RFID tag circuit chip mounted on the substrate, as taught by **Diprizio**, for the purpose of conveniently apply the RFID circuit chip to the RFID antenna, further to include in the method of attaching RFID module to an item of **Eberthard** and **Diprizio**, wherein the coupling between the RFID circuit chip and the

RFID antenna being a non-contact electrical coupling, as taught by **Diprizio** and **Beigel**, for the purpose of reducing the need for the electrical connection between the RFID chip and the RFID antenna through the substrate (**Beigel**: column 2 lines 63 – column 3 lines 2) and the result would have been predictable in the combination of **Eberthard**, **Diprizio**, and **Beigel**.

(6). As to **claim 8**, **Eberthard**, **Diprizio**, and **Beigel** disclose the limitations of **claim 7**. Further, **Eberthard** discloses *the method further comprising: providing alignment features* (FIG. 1 the first coupling region 28 and the second coupling region 30) *on the item and positioning the RFID electronics module on the item based on a location of the alignment features* (column 4 lines 29-44).

(7). As to **claim 9**, **Eberthard**, **Diprizio**, and **Beigel** disclose the limitations of **claim 7**. Further, **Eberthard** discloses *the method further comprising providing an adhesive on the RFID electronics module; and applying the RFID electronics module to the item by means of the adhesive* (column 4 lines 29-44 and FIG. 2 the anisotropic adhesive 34).

(8). As to **claim 12**, **Eberthard**, **Diprizio**, and **Beigel** disclose the limitations of **claim 7**. Further, **Eberthard** discloses *the method wherein applying the RF antenna to the item comprises printing the RF antenna on the item* (column 4 lines 16-23).

(9). As to **claim 13**, **Eberthard**, **Diprizio**, and **Beigel** disclose the limitations of **claim 12**. Further, **Eberthard** discloses *the method wherein the RF antenna is printed on the item using electrically conductive ink* (column 4 lines 16-29).

(10). As to **claim 14**, **Eberthard** discloses radio frequency identification tag having an article integrated antenna. Further, **Eberthard** discloses *in combination, an item* (column 3 lines 56 - column 4 lines 2 and FIG. 1 the article 10) *having at least one surface* (FIG. 1 the first

surface of the article 15) *and an RF antenna (FIG. 1 the antenna 22) applied to the surface (FIG. 1); and an RFID electronics module (FIG. 1 the RFID tag circuit chip 12) separate from the item and from the RF antenna on the item (FIG. 1), the RFID electronics module including electronics which provide an RFID capability when coupled to the RF antenna (column 4 lines 10-15, column 5 lines 33-40, and FIG. 1), the RFID electronics module being applied to the item so as to be electrically coupled to the RF antenna and provide an RFID capability for the item (abstract, column 4 lines 17-23, column 4 lines 34-44, FIG. 1, and FIG. 2).*

Except for the claimed limitations of *the RFID electronics module being a chip fixed to a substrate and the RF antenna being coupled to the RFID electronics module by a non-contact coupling.*

In the same art of RFID design, **Diprizio** discloses the radio frequency identification device (FIG. 1 RFID device 10) for use in application of identifying persons, places, or things (column 3 lines 1-4) comprising the first substrate (column 3 lines 7-16 and FIG. 1 the substrate 12), the conductive pattern having the first electrode and the second electrode (column 3 lines 39-67 and FIG. 1 the first electrode 14 and the second electrode 16), and the circuit (column 4 lines 1-14, FIG. 1 the circuit 18, and FIG. 2 the memory 22). Further, **Diprizio** discloses the circuit of the radio frequency identification device comprising the second substrate (FIG. 2 the second substrate 20) wherein the circuit is electrically coupled to the first electrode and the second electrode by use of adhesive, conductive vias, capacitive coupling, or other suitable means of providing electrical connections between the circuit and the first and second electrode (column 4 lines 44-51 and FIG. 2).

In the same art of RFID design, **Beigel** discloses a method wherein the RFID antenna coupled to the RFID chip in a non contact coupling, e.g. appropriate frequencies, capacitive, inductive, or lumped reactive, etc. to reduce the need for the electrical connection between the RFID chip and the RFID antenna through the substrate (abstract, column 2 lines 29 – column 3 lines 2, and FIG. 1).

Therefore, in view of **Eberthard**, **Diprizio** and **Beigel**'s teachings, it would have been obvious to one of the ordinary skill in the art at the time of the claimed invention to include in the method of attaching RFID module to an item of **Eberthard**, the RFID tag circuit chip fixed to the substrate, as taught by **Diprizio**, for the purpose of conveniently apply the RFID circuit chip to the RFID antenna, further to include in the method of attaching RFID module to an item of **Eberthard** and **Diprizio**, wherein the coupling between the RFID circuit chip and the RFID antenna being a non-contact electrical coupling, as taught by **Diprizio** and **Beigel**, for the purpose of reducing the need for the electrical connection between the RFID chip and the RFID antenna through the substrate (**Beigel**: column 2 lines 63 – column 3 lines 2) and the result would have been predictable in the combination of **Eberthard**, **Diprizio**, and **Beigel**.

(11). As to **claim 15**, **Eberthard**, **Diprizio**, and **Beigel** disclose the limitations of **claim 14**. Further, **Eberthard** discloses *the combination further comprising an adhesive attaching the RFID electronics module to the item* (column 4 lines 29-44 and FIG. 2 the anisotropic adhesive 34).

6. **Claims 6 and 16 are rejected under 35 USC 103(a) as being unpatentable over Eberthard in view of Diprizio and Beigel and further in view of Halope et al. (Halope – US 6,770,509 B2).**

(1). As to **claim 6, Eberthard, Diprizio, and Beigel** discloses the limitations of **claim 1** except for the claim limitations of *the method further comprising providing a dielectric between the RF antenna and the RFID electronic module.*

In the same art of producing RFID tags, **Halope** discloses a method comprising steps of applying the dielectric material between the RFID chip and the RFID antenna to maintain the position of the RFID chip (abstract, column 2 lines 57-63, column 3 lines 25-35, and FIG. 3 the adhesive dielectric material 20).

Therefore, in view of **Eberthard, Diprizio, Beigel, and Halope's** teachings, it would have been obvious to one of the ordinary skill in the art at the time of the claimed invention to include the method further comprising providing a dielectric between the RF antenna and the RFID electronic module, as taught by **Halope**, in the method of attaching RFID module to an item of **Eberthard, Diprizio, and Beigel**, for the purpose of maintaining the RFID chip position relative to the contacts by applying the adhesive electric material between the RFID chip and the RFID antenna and the result would have been predictable in the combination of **Eberthard, Diprizio, Beigel, and Halope**.

(2). As to **claim 16, Eberthard, Diprizio, and Beigel** discloses the limitations of **claim 14** except for the claim limitations of *the combination further comprising a dielectric between the RFID electronics module and the RF antenna.*

In the same art of producing RFID tags, **Halope** discloses a method comprising steps of applying the dielectric material between the RFID chip and the RFID antenna to maintain the position of the RFID chip (abstract, column 2 lines 57-63, column 3 lines 25-35, and FIG. 3 the adhesive dielectric material 20).

Therefore, in view of **Eberthard, Diprizio, Beigel, and Halope**'s teachings, it would have been obvious to one of the ordinary skill in the art at the time of the claimed invention to include the method further comprising providing a dielectric between the RF antenna and the RFID electronic module, as taught by **Halope**, in the method of attaching RFID module to an item of **Eberthard, Diprizio, and Beigel**, for the purpose of maintaining the RFID chip position relative to the contacts by applying the adhesive electric material between the RFID chip and the RFID antenna and the result would have been predictable in the combination of **Eberthard, Diprizio, Beigel, and Halope**.

7. Claim 17 is rejected under 35 USC 103(a) as being unpatentable over **Eberthard in view of Diprizio and Beigel and further in view of Gustafson (Gustafson – US 6,050,622)**.

As to **claim 17**, **Eberthard, Diprizio, and Beigel** disclose the limitations of **claim 14** except for the claimed limitations of *the combination wherein the RFID module is adapted to have its RFID capability modified if the RFID electronics module is tampered or removed from the item*.

In the same art of designing RFID tag, **Gustafson** discloses a method wherein the function of the RFID tag is modified if the RFID tag is removed from the item (abstract, column 6 lines 35-50, and FIG. 6).

Therefore, in view of **Eberthard, Diprizio, Beigel, and Gustafson**'s teachings, it would have been obvious to one of the ordinary skill in the art at the time of the claimed invention to include the combination wherein the RFID module is adapted to have its RFID capability modified if the RFID electronics module is tampered or removed from the item, as taught by **Gustafson**, in the combination of attaching the RFID module to an item of **Eberthard, Diprizio,**

and **Beigel**, for the purpose of disabling the RFID function in order to prevent the re-usage of the RFID tag or to detect the tampering of the RFID tag and the result would have been predictable in the combination of **Eberthard, Diprizio, Beigel, and Gustafson**.

Conclusion

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to QUANG PHAM whose telephone number is (571)-270-3668. The examiner can normally be reached on Monday - Thursday 9:30 AM - 5:00 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, BENJAMIN LEE can be reached on (571)-272-2963. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/QUANG PHAM/
Examiner, Art Unit 2612

/BENJAMIN C. LEE/

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